

Focal Point



The Newsletter of the Milwaukee Astronomical Society

Mar & Apr 2004

Presidents Message

An Asteroid Occultation

For the third time in the last 12 months, members of the MAS have observed an occultation of a star by an asteroid. An occultation occurs when a celestial object, like an asteroid, planet or moon of one the planets passes between a star and your line of sight. The latest one occurred by means of the asteroid named Apollonia which orbits the Sun every 5 years. Using Guide 8, an excellent sky atlas software package, Apollonia is currently 270 million miles away and its' apparent angular velocity is about 1.0 arc-minute / hour. Besides being fun to watch, (OK some of us are really strange), timing an occultation is scientifically useful as it gives us a direct check on the orbital accuracy and provides the only visual way of determining the minimum size of the asteroid. If we had positioned many observers across the state, we could have even determined an approximate shape of the asteroid by noting the amount of time that the star was occulted at each location.

Because the occulted star, designated GSC 38 800 in Cetus, was only 11th magnitude and situated very low on the horizon, the only telescope on site capable of recording this event was Z-Scope. The field of view of Z-scope, when imaging directly onto a TV camera sensor, is very small. Thus I made an adapter to add my 0.4 power focal reducer to the telescope, yielding a field of about 4 minutes of arc. It was difficult trying to find the star but Gerry Samolyk, who is very good at this sort of thing, had it centered on the TV screen after about 5 minutes of star hopping. Much to my delight, as we watched and recorded, the star blinked out for about 2.2 seconds. For some reason, I have gotten a big kick out of all three asteroid occultation's that we have recorded in the last year and I will try to observe this type of event as often as possible.

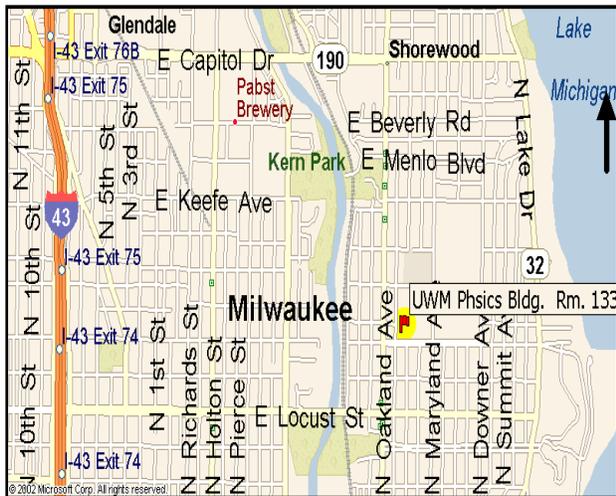
What about the size of the asteroid? We don't know how close to the maximum profile we saw, but if you calculate the angular movement of the asteroid in the eclipse time, convert it to radians and then multiply the result by the distance to the asteroid, you get about 80 kilometers. Believe it our not, the estimated diameter given by IOTA, the International Occultation Timing Association, is 89 kilometers. (Go ahead and do the math yourself if you don't believe me! The numbers I gave you are sufficient to make this calculation.) Let me assure you that this is closer than we had a right to expect or can justify for an irregular object, but it does indicate that we were very close to the maximum diameter path along the surface of the Earth! Not bad for a measurement from 276 million miles away! I love this hobby.

(Continued on Page 8, "New Observing Site")

MAS General Meetings

The March and April meetings of the Milwaukee Astronomical Society will be held at the UWM Kenwood Campus in the Physics Bldg., Room 133.

The Board meets at 7 PM (All board members are requested to attend) and the general Membership meets at 8 PM. Visitors are welcome. See the map below for directions:



May Elections

There are four open board seats this year. The remainder are eligible for re-election. Board members are elected by the membership. Anyone interested in running for a board seat should contact Gerry Samolyk.

All offices are open for election this year. President, VP, Treasurer, and Secretary are one year terms, Observatory Director is a three year term. It should be noted that after serving for six years, Scott Jamieson has decided not to run again. The officers are elected by the board members. Anyone interested in running for an office should contact Scott Jamieson.

New Members

A warm welcome to these new members of the MAS:

DeeAnn Dorman
Milwaukee, WI

Paul Denicola and family
New Berlin, WI

Scott Nehring
Milwaukee WI

William Steele and family
Waukesha, WI

Upcoming Messier Marathon

The Messier Marathon is an attempt by an observer to track down the 101 Messier objects in the sky. This is the best time of the year to do it because if you start at dusk and observe till dawn, you have a good chance of seeing all 101 objects which is quite an accomplishment. This years marathon will take place on March 20th (Rainout Date is March 27th). Whether you stop by for an hour or spend the whole night, it's a good way to get familiarized with the MAS telescopes or bring your own out. the Messier Marathon is not really a formal hunt but an excuse to have a good time observing as many of those faint-fuzzies as possible. Even when we have played hide and seek with the clouds, we have had great fun. In past years, pizza runs were made to keep everyone charged up to last the night. Come out and give it a try.

Wisconsin Observers Weekend

One of the biggest highlights of the year for area amateur astronomers and their families is the Wisconsin Observers Weekend (WOW) hosted by NEWSTAR. Three days of summer camping and observing at Hartman Creek State Park just west of Waupaca Wisconsin. Amateur astronomers from all over the mid-west bring along their telescopes for a weekend filled with the fun of helping some find objects for the first time, as well as the enjoyment of pursuing the challenge of finding new objects for their own enrichment. Whether or not you own a telescope or are a seasoned observer you will enjoy what WOW has to offer.

Hartman Creek State Park is 1,500 acres of post-glacial beauty located about 30 miles northwest of Oshkosh on the upper Waupaca Chain-O-Lakes. Visitors can enjoy camping swimming, hiking, biking, picnicking, and fishing, amidst the gently rolling woodlands, prairies, lakes and wetlands. Ten miles of hiking trails, including a segment of the National Scenic Ice Age Trail, offer plenty of opportunity to stretch your legs while enjoying numerous wildflowers and abundant bird life. The park also has designated off-road bicycling trails and low-traffic roads surrounding the area provide safe routes for the touring cyclist as well. Hartman Lake has a 300-foot sandy beach and swimming area for a cool dip after a hot day.

WOW reserves all five group campsites at Hartman Creek State Park so that your evening observing environment is white light free and as dark as possible for your enjoyment. This is primitive camping – pit toilets and hand water pump only – but hot showers and “flushes” are available in the family campground a short distance down the road. Tent camping sites are plentiful, however there is no parking on the grassy areas, so recreational vehicles or campers may find space tight in the limited parking areas. Saturday afternoon NEWSTAR hosts an ice cream social for WOW attendees free of charge.

Just down the road, the town of Waupaca has all the conveniences and amenities you might need, and hotels are nearby if you do not wish to camp. Although it's only approximately 5 miles away, light pollution from Waupaca has very little impact on Hartman Creek State Park.

Registration is limited to 150 attendees this year. Registration closes June 2nd, 2004.

Registration for the general public is \$9. per adult and \$2. per child.

This fee includes your WOW registration and camping fee.

You must purchase a state park sticker or daily pass to enter the park.

You may have a registration form emailed to you. Just reply to ty@uspower.net.

Additional info can be found at the parks website:

<http://www.dnr.state.wi.us/org/land/parks/specific/hartman/>

Camping info and maps can be found at:

<http://www.reserveamerica.com/jsp/commonpage.jsp?goto=/usa/wi/hart/newindex.html>

Looking forward to seeing you under the stars at WOW 2004,

Ty Westbrook

WOW 2004 coordinator

Benefits of Membership in the Astronomical League

The Astronomical League is a Federation of Astronomical Societies. Current membership of the Astronomical League consists of 20,000 individual members in more than 275 astronomy clubs across the United States.

Your affiliation with the Astronomical League is a benefit of membership in your local society. You may also join the AL as a Member-at-Large. Your member society pays \$10 per year, and you pay \$5.00 per year through your society's dues, or \$25.00 per year as a Member-at-Large, to join the Astronomical League and receive the following benefits.

REFLECTOR - Quarterly newsletter sent to each member of the AL. As a member, you are entitled to submit for consideration of publication special club activities and astronomically related work you are doing, including astrophotography.

LIABILITY INSURANCE - The Club and Chapter Liability Insurance Program provides comprehensive protection for acts committed by members working for the chapter and under its direction. Enroll directly with the insurance company.

OBSERVING AWARDS - Messier, Herschel 400, Herschel II, Binocular Messier, Binocular Deep-Sky, Double Star, Southern Skies, Urban, Lunar, and Meteor Awards with certificates of achievement. The Astronomical League provides a wide range of observing certificates suitable to astronomers at all levels of expertise, from beginner to accomplished expert. See the AL Website for a complete list: www.AstroLeague.org

LEAGUE BOOK SERVICE - A 10 per cent discount or more on all astronomical and related science books published in the U.S.

LEAGUE SALES OFFICE - Retail sales on League publications, AL jewelry, decals, T-shirts, postcards, etc. It also handles quantity orders of all League Publications at a discount. <http://www.astronomicalleague.com/>

LEAGUE PUBLICATIONS - As an aid to the observer and student, the League offers these and other publications through the League Sales Office:

OBSERVE: a Guide to the Messier Objects
OBSERVE: and Understand the Sun
OBSERVE: the Herschel Objects
OBSERVE: Eclipses
OBSERVE: the Meteors
Math for the Amateur Astronomer

PAMPHLETS & ASTRO NOTES - How to Organize an Astronomy Society, and other useful topics, available from Astronomical League Sales: <http://www.astronomicalleague.com/>

(Continued on Page 9)

NCRAL Region Award Notification

from Lee Keith

Dear Astronomy League Correspondent or Member-at-Large,

Do you know someone who has dedicated his or her time and energy in pursuit of hobby, astronomy? Wouldn't you like to let them know they are appreciated for their hard work? This is your chance! It's time to make submit nominations for the NCRAL's Region Award. This award recognizes exceptional individual effort and meritorious service to amateur astronomy through their local astronomy club, public outreach, the NCRAL or the Astronomical League.

Using the guidelines and submission forms attached, we have made it easier than ever to nominate someone you feel deserves this award. This award will be presented in a special ceremony at the dinner banquet concluding the NCRAL regional convention in Burlington, Iowa on Saturday, May 1st, 2004.

The Rules for nomination are as follows:

1. The individual must be a member in good standing either through an A.L member organization or as a current member-at-large in the North Central Region.
2. The three current regional officers and the regional representative are NOT eligible for this award. Past winners are also ineligible for this award.
3. The regional officers and the regional representative are the voters and will base their decision on the information provided. Each member votes independently and will use his/her best judgment. All decisions are final.
4. The winner will not be revealed until the banquet at the end of the convention. Those not chosen, will not be revealed.
5. All non-winning nominations will be kept on file for two years after submission.

After such time, a new nomination will need to be completed.

There are many deserving candidates within our region. It is our hope to have at least one nomination from each society in the NCRAL. I look forward to receiving your nominations in the mail at the above listings.

Sincerely,

Ty Westbrook, Vice-Chair, NCRAL
330 W Brewster St.
Appleton WI 54911-3677

Phone 920-733-7264

E-mail: ty@uspower.net

Note: Anyone in need of an application may contact our Astronomical League correspondent, Lee Keith at (414) 425-2331 or: leekeith1@juno.com

The Variables are Coming!

by Rudy Poklar

Many MAS meeting attendees have heard program talks by Observatory Director Gerry Samolyk and others on measuring the magnitude variations of Variable stars and the significance of the recorded behavior. One such pulsating variable, Z UMa, is tracked by MAS as a club project and to get members started in making visual estimates of brightness magnitude. Quite a few members of MAS are also participating members of the American Association of Variable Star Observers (AAVSO). It's a unique organization of 1000+ amateur astronomers, world wide, who measure the changing magnitude of several classes of stars that vary as a function of time. They contribute these observations to a central data base (AAVSO) for use by professional and advanced amateur astronomers in studying the physical nature of our universe. It is another piece of the puzzle in helping to define our cosmos. Over many decades, the AAVSO has accumulated over 11 million observations that are available to all for scientific study.

The January 2004 issue of the AAVSO Newsletter compiled the reported observations for the years 2002-2003 with some surprising results. Some of the items that stand out are:

Worldwide, 752 observers reported a total of 432,660 observations.

Of the above total, 271 observers in the U.S. reported 31%, or 133,800 observations.

In a further breakdown by the 50 states, Wisconsin is second in total reported observations only to the leader, California:

California had 38 observers reporting 23,592 observations

Wisconsin had 13 observers report 18,394 observations

A fair number of MAS members have contributed to this Wisconsin total

There are other state observers (non MAS) who have also been traditionally big contributors. A large share of the MAS observations were done by Gerry Samolyk, but many others, like the writer, contributed a humble number of observations, as well. Gerry has been a veritable "Johnny Appleseed" of variable star observing, training many of us in measurement techniques and fostering scientific study at MAS. He has also encouraged cross training one another in photometric measurement of Eclipsing Binary and RR Lyrae type variables. Gerry, in turn, had been influenced, by his peers such as senior members Ed Halbach and Bill Albrecht. MAS member, Gene Hanson, currently of Cave Creek, AZ has been recognized by AAVSO for his prodigious output in the past. Gene also was a product of previous MAS training during his Wisconsin days.

Last but not least, MAS's ability to measure and record variables such as Eclipsing Binaries has been significantly enhanced by the upgrading and computerization of observing facilities under President Scott Jamieson's leadership.

Most Variable observers derive satisfaction by knowing their observations contribute to scientific astronomical study. There is also satisfaction in working with fellow AAVSO members, where the majority of them are active contributors as well. There is no other organization like it.

Eds. Note: Ed Halbach, Bill Albrecht, Gerry Samolyk, and Gene Hanson have all received special recognition awards from AAVSO as reported in previous issues of the Focal Point newsletter. For more information on variable star observing, classes of variables, observing techniques, etc. see the AAVSO web page at www.aavso.org For more information on variable star observing, classes of variables, observing techniques, etc. see the AAVSO web page at <http://www.aavso.org>

Z UMa Rising

by Gerry Samolyk

As spring approaches the semi regular variable star, designated “Z UMa”, is visible once again in the evening sky. Four years ago the MAS started a project observing the brightness changes of this star in order to familiarize our membership with variable star observing.

To place a brightness value (magnitude), it's a simple matter of comparing the variable to nearby comparison stars. First, find one comparison star that is slightly brighter and another that's slightly fainter. Then estimate the brightness of the variable relative to those stars.

Visit the MAS website at <http://www.milwaukeeastro.org/> , scroll down to Z UMa and click on “Particulars”. There you'll find star finder charts and graphs showing MAS results of observations thus far.

Astronomical Resources:

I am a member of the Roanoke Valley Astronomical Society, and I would like to briefly tell you about two resources that may be of value to your local membership. If you agree, please tell others.

First and foremost, I have spent many months developing and refining my astronomy links web site. It has received several thousand visitors so far, and perhaps you already know about my free site. Its major purpose is to help us amateur astronomers easily find many of the most useful resources on the web. I have also paid attention to the needs of beginners.

Kindly pay a visit to my site. It is not fancy, just functional. It works very well with slow Internet connections: <http://members.cox.net/clark7/astronomylinks>

Secondly, even though most astronomers use Windows software, a growing number of us also have access to Macintosh computers. I have had the pleasure of collaborating with an exceptional astronomer and programmer in Canada to help refine his elegant Mac shareware program, EquinoX.

I asked Darryl Robertson to include several lists of objects that are in the Astronomical League's observe award programs. You can precisely find and view individually or together (even with DSS images) double stars, variable stars, stars with planets, Messier objects, Caldwell objects, the Herschel 400, the Herschel II, the Arp 338, and all of the NGCs. EquinoX accurately tracks planets, asteroids, comets, and the major moons of Jupiter and Saturn. It controls, even by voice alone, several types of Meade and Celestron telescopes, and it works with webcams. The trial download is free; the full program is \$29.

I recently used custom maps that I prepared with EquinoX, and a laser dot finder, to complete my Messier list without any go-to assistance -- and I'm mentioned in the current Reflector.

(In case you wondered, I never have and never will receive any payment for helping develop and telling folks about Darryl's delicious astronomer's tool. This is part of my witness to our community.) <http://www.microprojects.ca/MPjEquinoxPage.html>

Clear skies,
Clark M. Thomas
clark7@cox.net

(From front page, President's Message)

New Observing Site Project

Now that spring is near, the MAS will be resuming its search for a new site with darker skies. The existing possibility of selling the current MAS site has motivated us to be particularly persistent this spring and I am hopeful that we will find a suitable site. In preparation for this possibility, we have been discussing the many issues of a non-profit club going through such a major set of financial transactions and we feel we will be in need of legal help. If any of our members have the legal background to be able to help us through the sale and purchase of the land, and would like to help, please contact me directly at my home. My number is (262) 896-0119. Thanks.....Scott Jamieson.

Nebraska Star Party

The next Nebraska Star Party from July 18th to 23rd, 2004, in north central Nebraska, is one of the country's premier dark skies of the Midwest. It is located in a county nearly the size of Connecticut but a population of only 5000. As a consequence, there is little light pollution from large cities, towns, ranches, etc.

There have been nights when the Milky Way Galaxy is so bright that it is easy to locate with the naked eye right down to the horizon. The Great Hercules Cluster (M13), Lagoon Nebula (M8) and the Sagittarius Star Cloud (M24) are all naked eye objects. It is estimated that the naked eye limit surpasses magnitude 7.0!

If you have any questions members can call me, Lee Keith, at 414-425-2331 to speak with me about my trip to last year's NSP or to get a brochure. You can also call the NSP coordinator, Eric Balcom, at (402) 491-3502.

Astronomical League

The 2004 North Central Region of the Astronomical League convention will be held in Burlington, Iowa on Saturday, May 1st, 2004. Registration before April 1st is \$25 and \$40 afterwards. There will be a banquet featuring Dr. John Gurnett, Carver/J.A. Van Allen Professor of Physics & Astronomy at the University of Iowa. No topic was specified. For more info go www.astroleague.org or contact Lee Keith at 414-425-2331 or leekeith1@juno.com

For Sale:

12.5" F/6 Dobsonian with excellent Enterprise optics, 2" Astro Systems focuser, Mars red dot finder, Desert Shield to cover scope when not in use, built by Morningstar telescopes, Dob-driver II with notebook computer to drive the scope with Roboscope software, Guide V4 software, I have used a van for transportation (either Lumina APV, Plymouth Voyager, or Ford Windstar). Pick up price is \$875. Call Mike Cain at 847-223-2487 or E-mail: cainmh@aol.com

(continued from page 4, "Benefits of Membership")

EDUCATIONAL GUIDES - Planned astronomy courses and guides prepared for group study.

AL SUBSCRIPTION SERVICE - For active amateur astronomers who do not belong to a League member society.

GENERAL AWARDS - Achievement awards at the junior, society, and national League levels, including the National Outstanding Young Astronomer Award.

For information on all Astronomical League Benefits, contact Executive Secretary:

Jackie Beucher

11305 King Street

Overland Park, KS 66210

E-mail: m31@everestKC.net

Visit the AL Home Page: <http://www.astroleague.org>

This list of Benefits of Membership in the Astronomical League is being provided as the result of a recent discussion on the Astro-Officers news group. Please feel free to distribute this information to members of your local astronomy society, and to reprint any or all of it in your local club publications and on your club websites.

Sincerely:

Ed Flaspoebler, AL Press Officer

P.O. Box 7981

Dallas, TX 75209

eflaspo@aol.com

Interesting Websites

The CCD Calculator: <http://www.newastro.com/newastro/downloads/ccdCalcFree.asp>

Julian Day Calculator: <http://aa.usno.navy.mil/data/docs/JulianDate.html>

2003 Table of Individual Observers: <http://www.aavso.org/aavso/membership/totals.shtml>

Milwaukee Clear Sky Clock: <http://cleardarksky.com/c/MilwaukeeWIkey.html>

Let's Talk Stars w/ David Levy: <http://www.letstalkstars.com/>

M 78 Animation: http://www.rc-astro.com/nebulae/mcneil_anim.htm

Free Planetarium Program: <http://www.hnsky.org/software.htm>

MAS Officers / Staff

President: Scott Jamieson (262) 896-0119
Vice President: Vern Hoag (262) 548-9130
Treasurer: Chris Weber (262) 789-7128
Secretary: Henry Gerner (414) 774-9194
Observatory Director:
Gerry Samolyk (414) 529-9051
Assistant Observatory Director:
Paul Borchardt (262) 781-0169
Focal Point: Jerry Bialozynski (262) 895-7461

Upcoming MAS Events:

March 20 - Messier Marathon at the Observatory
March 26 & April 23 - Open Houses

MAS Membership is open to anyone interested in Astronomy who wishes to enrich their knowledge of the Universe.
Yearly Membership Dues:
Individual \$34/yr, Family \$40, Non-resident (individual \$22, Family \$40), Student (under 18) \$16. For more information, contact Membership Chairman, Carlos Garces, 16430 Melody Drive, New Berlin, WI. 53151.
Phone: (262) 786-2623 Email : cgarces@wi.rr.com

Focal Point Publishing Guidelines

The "Focal Point" is published bi-monthly (Jan, March, May, July, Sept, Nov). Articles, Announcements, Graphics, Photos, Swap/Sale Ads etc. should be **submitted at least 10 days** prior to the first of the month (of the pending issue). Article inputs are preferred via email in a Text or Word compatible format. Submit Focal Point inputs to:

Saturday Night Key Holder

March

6 Chris Weber (262) 789-7128
13 Neil Simmons (262) 889-2039
20 Gerry Samolyk (414) 529-9051
27 Dan Yanko (414) 453-3382

April

3 Jerry Bialozynski (262) 895-7461
10 Paul Borchardt (262) 781-0169
17 Tim Burrus (262) 548-6372
24 Steve Diesso (262) 641-0331

May

1 Brian Ganiere (414) 961-8745
8 Carlos Garces (262) 786-2623

Loaner Telescopes (available to members for local use)

Lee Keith (Franklin) (414) 425-2331 8" Dob reflector
Scott Jamieson (Waukesha) (262) 896-0119 8" Dob reflector
Paul Borchardt (MAS site) (262) 781-0169 6" Dob reflector
Chris Weber (New Berlin) (262) 789-7128 8" Dob reflector

MAS Observatory (262) 542-9071

MAS Web Page: www.milwaukeeastro.org

The Milwaukee Astronomical Society
c/o Jerry Bialozynski
8823 Oriole Lane
Wind Lake, WI 53185-5516

ADDRESS CHANGE SERVICE REQUESTED

Next Board & General meetings of the MAS will be held on March 19 & April 16. The Board will meet at 7:00 PM, the General Meeting will be at 8:00 PM at UWM.

